

# National Arboviral Surveillance System

## CDC / CSTE “Big-Ticket Items” 2004

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- ArboNET (= NEDSS) vs. NETSS for human cases
- National surveillance case definition
- National reporting of West Nile fever

# **National Arboviral Surveillance System**

## **ArboNET / NETSS for Human Cases**

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- **ArboNET**
  - **“Tracking the virus in real-time”**
  - **Humans, birds, equines, mosquitoes, etc.**
  - **Human encephalitis / meningitis / WN fever**
  - **Confirmed / probable / suspected**
  - **Reduced reporting lag**
- **NETSS**
  - **Annual Summary of Notifiable Diseases (MMWR)**
  - **Human data only**
  - **Encephalitis / meningitis (NNDL)**
  - **Confirmed / probable**
  - **Substantial reporting lag**

# National Arboviral Surveillance System

## ArboNET / NETSS for Human Cases

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- **Problems**
  - **Confusion**
  - **Duplicate reporting of human data**
- **The Future = NEDSS**

# National Surveillance Case Definition Published Versions



## Case Definitions for Public Health Surveillance

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Centers for Disease Control  
Atlanta, Georgia 30333



1990



## Case Definitions for Infectious Conditions Under Public Health Surveillance

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Public Health Service  
Centers for Disease Control  
and Prevention (CDC)  
Atlanta, Georgia 30333



1997

**Encephalitis or Meningitis, Arboviral (Includes California serogroup, eastern equine, St. Louis, western equine, West Nile, Powassan)**

**2001 Case Definition**

**Clinical description**

Arboviral infections may be asymptomatic or may result in illnesses of variable severity sometimes associated with central nervous system (CNS) involvement. When the CNS is affected, clinical syndromes ranging from febrile headache to aseptic meningitis to encephalitis may occur, and these are usually indistinguishable from similar syndromes caused by other viruses. Arboviral meningitis is characterized by fever, headache, stiff neck, and pleocytosis. Arboviral encephalitis is characterized by fever, headache, and altered mental status ranging from confusion to coma with or without additional signs of brain dysfunction (e.g., paresis or paralysis, cranial nerve palsies, sensory deficits, abnormal reflexes, generalized convulsions, and abnormal movements).

**Laboratory criteria for diagnosis**

Fourfold or greater change in virus-specific serum antibody titer, or isolation of virus from or demonstration of specific viral antigen or genomic sequences in tissue, blood, cerebrospinal fluid (CSF), or other body fluid, or

Virus-specific immunoglobulin M (IgM) antibodies demonstrated in CSF by antibody-capture enzyme immunoassay (EIA), or

Virus-specific IgM antibodies demonstrated in serum by antibody-capture EIA and confirmed by demonstration of virus-specific serum immunoglobulin G (IgG) antibodies in the same or a later specimen by another serologic assay (e.g., neutralization or hemagglutination inhibition).

**Case classification**

2001

# National Surveillance Case Definition: Issues

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- Further revisions:
  - None? / Tinkering? / Paradigm shift?
- More detailed / specific clinical criteria?
- “Dynamic” laboratory criteria (web link)
- More generic to cover other exotics (e.g., VEE)?
- Non-ME neurologic presentations (e.g, AFP)?
- WN fever & other arboviral fevers?

# West Nile Fever

## Old Disease, New Surveillance Issue

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- 1999-2001: <10 cases reported (ArboNET)
- 2002: ~900 cases reported
- 2003 ~6,000 cases reported
- Morbidity modest, mortality low
- **Not** on NNDL but reporting encouraged (ArboNET & NETSS)
- NETSS EVENT code 10049 (2002)
- CDC “recommended” case definition available (2002)